Rec'd PCT/PTO 27 JAN 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number
WO 2004/011182 A3

(51) International Patent Classification[7]: G05D 23/19

(21) International Application Number: PCT/JP2003/009648

(22) International Filing Date: 30 July 2003 (30.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
NO. 2002-223536 31 July 2002 (31.07.2002) JP

(71) Applicant *(for all designated States except US)*: MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. [JP/JP]; 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501 (JP).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: NONOMURA, Masaru [JP/JP]; Haitsu Yuki A-205, 2511, Kamisukiawara, Syowa-cho, Nakakoma-gun, Yamanashi 409-3861 (JP). ISOBATA, Yoshinori [JP/JP]; Vira Okuni No.2-303, 481-2, Ushiroya-machi, Kofu-shi, Yamanashi 400-0045 (JP). ONISHI, Hiroaki [JP/JP]; 12-14-201, Nakamura-cho, Ibaraki-shi, Osaka 567-0822 (JP). TANIGUCHI, Masahiro [JP/JP]; 2-28, Ogura-cho, Hirakata-shi, Osaka 573-1173 (JP).

(74) Agents: KAWAMIYA, Osamu et al.; AOYAMA & PARTNERS, IMP Building, 3-7, Shiromi 1-chome, Chuo-ku, Osaka-shi, Osaka 540-0001 (JP).

(81) Designated States *(national)*: CN, US.

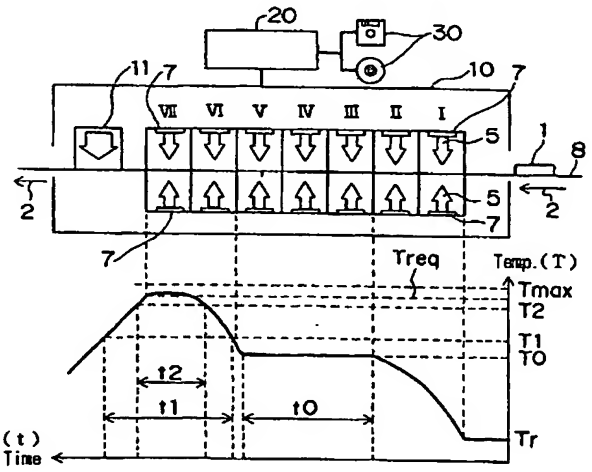
(84) Designated States *(regional)*: European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
30 September 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD, APPARATUS AND PROGRAM OF THERMAL ANALYSIS, HEAT CONTROLLER AND HEATING FURNACE USING THE METHOD



(57) Abstract: Heating characteristic value at any measuring point of an object at any measuring location of an heating furnace is determined as a single invariable by using temperature (Tint and Ts) measured at the measuring point of the object and heating temperature (Ta) and heating time (t) at the measuring location of the heating furnace. The heating characteristic value (m-value) may be calculated without using physical characteristics of the object. By using the m-value, temperature profile of the object heated under modified heating condition may be simulated in a short period of time without actually heating and measuring temperature of the object at high accuracy level. By using such simulation, appropriate heating condition for heating an object in accordance with desired heating condition may easily be determined.

WO 2004/011182 A3